

THERE IS NO A PRIORI
In Contemporary Debates in Epistemology, Ernest Sosa and Matthias Steup, eds.
Cambridge, MA: Blackwell Publishers (2005), 105-115.

Michael Devitt

1. Introduction

It is overwhelmingly plausible that some knowledge is empirical, "justified by experience." The attractive thesis of naturalism is that all knowledge is; there is only one way of knowing.¹ But this naturalism seems to be refuted by intuitions about a range of troublesome examples drawn from mathematics, logic, and philosophy. Thus, how could experience have anything to do with justifying the belief that $5+7=12$? Furthermore, it does not seem possible that such knowledge could be revised in the same sort of way that 'All swans are white' was by the sighting of black swans in Australia. It seems that the troublesome knowledge must be justified in some other way, justified a priori.

So we have a motivation for abandoning naturalism and accepting the thesis that some knowledge is a priori. Yet there is a consideration against this thesis: the whole idea of the a priori seems deeply obscure. What is it for a belief to be justified a priori? What is the nature of this nonempirical method of justification? Without satisfactory answers the a priori is left mysterious.

In light of this, a naturalistic critic of the a priori faces two tasks: to undermine the motivation by showing that the troublesome knowledge could be empirical after all; and to demonstrate the obscurity of the a priori. Success in the second task would show that an a priori explanation of the troublesome knowledge, indeed of anything, was very unpromising. Success in the first task would show that an empirical explanation was available. So we would have a nice abduction for naturalism: the best explanation of that knowledge is that it is empirical.

But first, a preliminary point. Our concern is with the justification of beliefs not with their source. Experience is clearly not the source of many mental states: they are innate. Perhaps some of these are justified beliefs (although I doubt it). If so, the naturalist insists, beliefs of that sort were somehow justified by the experiences (broadly construed) of our distant ancestors and we have inherited that justification via natural selection.

Drawing on earlier works (1996, 1997, 1998, 2002), I shall attempt the two tasks. I shall conclude by considering Laurence Bonjour's thorough and vigorous defense of the a priori (1998, 2001a, 2001b).

¹BonJour (1998) calls this epistemological naturalism "radical empiricism." It should not be confused with metaphysical naturalism, a reductive doctrine like physicalism.

2. Motivation

The naturalistic alternative: Our aim is to provide an alternative naturalistic account of the troublesome examples of allegedly a priori knowledge. With the help of Quine (1961, 1966, 1969, 1975), and before him Duhem (1954), I think that we can do this.²

The key to the naturalistic alternative is breaking free of the naive picture of justification suggested by the swan example. We must view justification in a more holistic way: beliefs, even whole theories, do not face the tribunal of experience alone, but in the company of auxiliary theories, background assumptions, and the like. Much evidence for this "Duhem-Quine thesis" has been produced by the movement in philosophy of science inspired by Kuhn (1962). In light of this, we have no reason to believe that whereas scientific laws, which are uncontroversially empirical, are confirmed in the holistic empirical way, the laws of logic and mathematics are not; no reason to believe that there is a principled basis for drawing a line between what can be known this way and what cannot; no reason to believe that there is, in Quine's vivid metaphor, a seam in the web of belief.

Quine is fond of an image taken from Otto Neurath. He likens our web of belief to a boat that we continually rebuild whilst staying afloat on it. We can rebuild any part of the boat - by replacement or addition - but in so doing we must take a stand on the rest of the boat for the moment. So we cannot rebuild it all at once. Similarly, we can revise any part of our knowledge - by replacement or addition - but in so doing we must accept the rest for the time being. So we cannot revise it all at once. And just as we should start rebuilding the boat by standing on the firmest parts, so also should we start rebuilding our web. So we normally take the propositions of logic and mathematics for granted. Still, each of these propositions is in principle revisable in the face of experience: taking a stand on other such propositions, and much else besides, we might contemplate dropping the proposition.

Given this naturalistic alternative, we have no need to turn to an a priori explanation of our knowledge of mathematics, logic, and the like. The original intuitions were really that this knowledge is not justified in some direct empirical way. Those intuitions are preserved. Yet we can still see the knowledge as empirical: it is justified empirically in an indirect holistic way.

I shall develop this account by answering objections.

Objection 1: "You are surely not suggesting that these few hand-waving remarks about the empirical nature of mathematics come close to solving the epistemological problem of mathematics."

²Although Quine's influence on the views I will present is large and obvious, I am not concerned to argue that these views are precisely his nor to defend everything he has to say on the a priori and related topics.

No, I am not. But there are two reasons why this is beside the point. First, as Georges Rey (1998) is fond of pointing out, we are not close to solving the epistemological problem of anything. Since we do not have a serious theory that covers even the easiest examples of empirical knowledge - examples where experience plays its most direct role - the fact that we do not have one that covers the really difficult examples from mathematics hardly reflects on the claim that these are empirical too. We all agree that there is an empirical way of knowing. Beyond that, the present aim needs only the claim that the empirical way is holistic. We have no reason to believe that a serious theory would show that, whereas empirical scientific laws are confirmed in the holistic empirical way, the laws of mathematics are not.

Second, there is a special reason for not expecting the epistemological problem of mathematics to be anywhere near solved: the metaphysical problem of mathematics - what mathematics is about - remains so intractable. How could we solve the epistemological problem when we remain in such darkness about the metaphysical one? We no longer have any reason to think that, if we solved the metaphysical problem, the epistemological problem would not be open to an empirical solution.

Objection 2 "We need to explain our knowledge of necessities; for example, that necessarily $5+7=12$, that necessarily all bachelors are unmarried. Yet all we can know from experience is how things are - how they are in the actual world - not how they must be - how they are in all possible worlds."

But why should we accept that necessities can only be known a priori? Prima facie, some necessities are known empirically; for example, that water is necessarily H_2O and that Hesperus is necessarily Phosphorus. Indeed, science seems to be discovering necessities all the time. Now, one might respond that what science discovered was only that water is H_2O not that it necessarily is; the necessity is not an empirical discovery. But, again, why should we accept this? Certainly, we do not simply observe the necessity of water being H_2O . But we do not simply observe most scientific facts: we discover them with the help of a lot of theory. And that, according to the naturalist, is how we discover necessities. More needs to be said of course, but to say it we would need to take a stand on the metaphysical problem of necessity. That problem is another difficult one. There is no reason to believe, however, that if we solved it we would not be able to explain our knowledge of necessities empirically. The situation for that knowledge is analogous to that for our knowledge of mathematics.

Objection 3: This objection concerns logic. It arises out of the dominant theme of Bonjour's defense of the a priori: that "the rejection of any sort of a priori justification leads inexorably to a severe skepticism" and to the undermining of "reasoning or argument in general" ((2001a, pp. 625-6). Bonjour's discussion suggests the following objection. "On your Quinean alternative, experience justifies beliefs in the interior of the web via links with beliefs at the periphery, via links with beliefs 'close to experience.' But these justifications depend on the links themselves being justified: clearly a belief is not justified by other beliefs unless those others give it genuine support. The objection to your alternative is then: the justification of these links has to be a priori; it could not come from

experience." Indeed, Bonjour claims,

if there is no a priori insight...no prediction will follow any more than any other... any...sort of connection between the parts of the system will become essentially arbitrary. (2001b: 679)

the rejection of all a priori justification is tantamount to intellectual suicide. (2001a: 626)

In brief, the objection is that logic must be seen as a priori because we need logic to get evidence for or against anything.

Many would agree with this objection. I have three responses. But first I will give what I hope is some fairly uncontroversial background.

The links that hold the web of belief together reflect a set of rules that are part of "an evidential system" (Field 1996, 1998). As a result of nature and nurture each person embodies such a system which governs the way she arrives at her beliefs about the world. A system must include dispositions to respond selectively to perceptual experiences and to infer according to certain rules. A likely example of a rule is modus ponens. So, a person embodying an evidential system S containing this rule is disposed to infer according to the pattern:

If p then q,
p,
So, q.

Now, the objection is surely right in claiming that for a person using S to have justified beliefs, its rules have to be good ones. This is not to say that she must know the epistemological theory,

T: S is a good evidential system,

for her beliefs to be justified. So it is not to say that she must know

MP: Modus ponens is a valid inference

for her beliefs to be justified by modus ponens arguments. Indeed, as Lewis Carroll made clear a century ago, the demand for this sort of extra premise in an argument leads to a regress (see Boghossian 2001 for a discussion). And it is just as well that our person is not required to have this epistemological knowledge for, if she is an ordinary member of the folk, she is unlikely to have given such matters much thought. Still, it is certainly appropriate to give them thought. So it is appropriate for the person to stand back from her arguments and ask some epistemological questions. What are the rules of S? This is a question in descriptive epistemology. Are the rules of S good? How do we know T and MP? These are questions in normative epistemology. Any answers to such questions will be further beliefs, additions to her web. I take the point of the objection to be

that normative answers must be obtained by a priori insight.

Because modus ponens is a deductive rule, it is a rather misleading example of a system's rules. Given any theory and a body of evidence that it entails, we can easily construct rival theories that entail the same evidence. So we need more than deductive rules to choose between these theories and avoid skepticism: we need nondeductive "ampliative" rules. And these are rules that we don't have much insight into, whether a priori or not. It is largely because of this ignorance that, as already noted, we lack a serious epistemological theory. We can, of course, wave our hands and talk of enumerative induction, abduction, simplicity, and the like, but we are unable to characterize these in the sort of detail that would come close to capturing the rules that must constitute our actual evidential systems; for example, we are unable to specify when an explanation is good, let alone the best, or when we should take the belief that all observed Fs have been G to justify the belief that all Fs are G. Aside from that, some of these vague rules are controversial; for example, scientific realists love abduction, Bas van Fraassen does not. In sum, when we move beyond deduction, we have few if any specific and uncontroversial rules to be insightful about. The nonskeptics among us will share the very general insight that, whatever the rules of our evidential system may be, those rules are for the most part pretty good. So, if S is that largely unknown system, we believe T.

Response 1 Is the objection claiming that T is known a priori? If so, the claim hardly seems tempting. It seems more plausible to view our general insight that T is true as supported by the empirical success of S, whatever S may be. Similarly, someone afloat on a boat may not know the methods by which it was built but, noting its seaworthiness, infers that the methods, whatever they were, are good. In sum, when we focus on the largely unknown ampliative parts of S, our confidence in S seems as empirical as anything. To that extent, T does not even appear to be supported by a priori insight.

"But what about the specific deductive rules that we do have insight into, rules like modus ponens? Even if our overall confidence in S is empirical, our confidence in these deductive parts is a priori. We know MP a priori at least."

Response 2 But why must we see the support for the deductive rules as different in principle from that for the ampliative rules? They are all rules of S, they are all needed to avoid skepticism, and we can see them all as supported by the overall empirical success of S. Then the justification of the deductive parts of S is no different in principle from that of the ampliative parts. Similarly, all parts of S are empirically revisable. Thus, suppose that experience leads us to abandon T in favor of T', a theory that recommends an evidential system S' built around a nonclassical logic. Then clearly we should use S' instead of S. In this way our logical practices are themselves open to rational revision in the light of experience. These practices are far from "arbitrary": they are recommended by an experience-based epistemology.

Still, many will feel that I have not yet got to the heart of the objection. "On the one hand, you talk of T being supported by the empirical success of S. Yet that alleged support must come via S itself. So, the attempt to support T is circular. On the other hand, you talk of the possibility of

experience leading us to abandon T in favor of T'. Yet experience must be brought to bear on T by using S and so could not show that T is false and hence that we ought not to use S. The attempt to refute T is self-defeating."

Response 3 In considering the circularity charge we need to follow Braithwaite (1953: 274-8) in distinguishing "premise-circularity" from "rule-circularity." An argument is premise-circular if it aims to establish a conclusion that is assumed as a premise in that very argument. Premise-circularity is clearly reprehensible. But my argument for T is not guilty of it because it does not use T as a premise. An argument is rule-circular if it aims to establish a conclusion that asserts the goodness of the rules used in that very argument. My argument tries to establish T which asserts the goodness of S, the system used in that argument to establish T. So the argument is certainly rule-circular. This is worrying initially but is there a good reason to think that it is in fact reprehensible? I agree with those who have argued that there is not (Van Cleve 1984, Papineau 1993, Psillos 1998). Guided by the Neurath image, we accept the non-epistemological part of our web for the moment and seek to justify the epistemological part, T. And that justification is governed by just the same rules that govern the justification of anything, the rules of S.

The self-defeat charge is also worrying initially. Yet there are reasons for thinking that we can indeed show an evidential system to be defective using that very system.

First, it seems undeniable that our evidential systems have changed. (i) A good deal of the impressive scientific progress over the last three centuries has been in improved methodologies: we have learnt a vast amount not only about the world but also about how to learn about the world. As a result, much education of the young scientist is in these methodologies: think of physics and psychology, for example. (ii) Educated folk have tried to adjust their thinking in light of evidence that we normally tend toward certain sorts of irrationality; for example, counter-induction, and ignoring base rates in thinking about probabilities. (iii) Even our deductive practices have been affected by the rise of modern logic.

Next, the process of making any of these system changes must have been governed by some evidential system, the one that was then current. So, that system was used to establish an epistemological thesis that led to the system's replacement. These examples give us good reason to think that an evidential system could be used rationally to undermine itself. Accepting the non-epistemological part of our web and governed by S as usual, we find T wanting and so replace it and the system S that it recommends.

Despite this response, worries about circularity and self-defeat may persist. It helps to remove them to note that if the worries were appropriate, analogous ones would be just as appropriate if T were justified by a priori insight. For, if T were thus justified, a priori insights would be part of our evidential system S. We could then generate a circularity worry. The argument for T, which asserts the goodness of S, uses part of S to establish T. And we could generate a self-defeat worry. The apriorist must allow that we could abandon T in favor of T' on the basis of a priori insight, part of S. So S is used to establish T' which leads to its own replacement. If these

circularity and self-defeat charges are unworrying for the apriorist, the analogous ones are surely so for the naturalist.

Faced with the circularity and self-defeat charges we could conclude that our evidential system is unjustified. But this throws the baby out with the bathwater. Although the charges are worrying in the beginning I have argued that they should not be in the end. In any case naturalism and apriorism are on an equal footing in dealing with them.

Objection 4: "Suppose that it really is the case that any belief can be confirmed or disconfirmed by experience in the Duhem-Quine way. This does not show that agreement with experience is the only consideration relevant to the belief's rational acceptance and rejection. Hence it does not show that there is no a priori justification. By supposing that it does show this you beg the question."

The objection misses the main point of the naturalistic alternative. That point is not to show that there is no a priori knowledge but to remove the motivation for thinking that there must be. Everyone agrees that there is an empirical way of knowing. The Duhem-Quine thesis, supported by the history of science, is that this way of knowing is holistic. I have argued that our troublesome knowledge of mathematics, logic, and the like can be accommodated within this holistic empirical picture. We are far short of a detailed epistemology for this knowledge, of course, but we are far short of a detailed epistemology for any knowledge. Now, if I am right about all this, we have clearly removed the theoretical need to seek another, a priori, way of knowing. This is certainly part of the case against the a priori, but it cannot stand alone. The rest of the case is that the whole idea of the a priori is deeply obscure.

BonJour and many others will think that this empirical justification of the troublesome knowledge is inadequate. They will demand a justification that is stronger and that can only be met by appeal to the a priori. I think that this demand might be rational if there were any grounds for optimism about the a priori. But, I shall now argue, there are no such grounds, only grounds for pessimism. If this is right, the demand is not rational.

3. Obscurity

The aim in this section is to show that the whole idea of the a priori is too obscure for it to feature in a good explanation of our knowledge of anything. If this is right, we have a nice abduction: the best explanation of all knowledge is an empirical one.

We are presented with a range of examples of alleged a priori knowledge. But what are we to make of the allegation? What is the nature of a priori knowledge? We have the characterization: it is knowledge "not derived from experience" and so not justified in the empirical way. But what we need if we are to take the a priori way seriously is a positive characterization, not just a negative one. We need to describe a process for justifying a belief that is different from the empirical way and that we have some reason for thinking is actual. We need some idea of what a priori knowledge is

not just what it isn't.

Why? After all, I have been emphasizing how little we know about empirical justification. So why pick on the a priori? The answer is that there are two crucial differences in the epistemic status of the two alleged methods of justification. First, the existence of the empirical method is not in question: everyone believes in it. In contrast, the existence of the a priori way is very much in question. Second, even though we do not have a serious theory of the empirical way, we do have an intuitively clear and appealing general idea of this way, of "learning from experience." It starts from the metaphysical assumption that the worldly fact that p would make the belief that p true. The empirical idea then is that experiences of the sort that would be produced by that fact are essentially involved in the justification of the belief. In contrast, we do not have the beginnings of an idea of what the a priori way might be; we lack not just a serious theory but any idea at all.

The difficulty in giving a positive characterization of a priori knowledge is well-demonstrated by the failure of traditional attempts based on analyticity. Let the example of alleged a priori knowledge be our belief that all bachelors are unmarried. According to the tradition, the content of the concept <bachelor> "includes" that of <unmarried>, thus making the belief analytic. This seemed promising for an account of a priori knowledge because it was thought that, simply in virtue of having a concept, a person was in possession of a "tacit theory" about the concept; in virtue of having <bachelor>, a person tacitly knew that its content included that of <unmarried>. So a person's conceptual competence gave her privileged "Cartesian" access to facts about concepts. The required nonempirical process of justification was thought to be one that exploited this access, a reflective process of inspecting the contents of concepts to yield knowledge of the relations between them which in turn yielded such knowledge as that all bachelors are unmarried. This alleged process is that of "conceptual analysis."

Even if we grant that we have this Cartesian access to conceptual facts, the account fails. These facts would not justify the proposition that all bachelors are unmarried unless the proposition that all unmarrieds are unmarried were justified. But where does the justification for this proposition come from? It does no good to say, rightly, that the proposition is a logical truth, for what justifies logical truths? No satisfactory nonempirical account has ever been given of how they can be justified. Without such an account we have not described a nonempirical way of knowing.

In any case, we should not grant the Cartesian view that competence gives privileged access to contents, despite its great popularity. I urge a much more modest view of competence according to which it is an ability or skill that need not involve any tacit theory, any semantic propositional knowledge; it is knowledge-how not knowledge-that (1996). Why then should we believe the immodest Cartesian view, particularly since it is almost entirely unargued?

The content of a person's thought is constituted by relational properties of some sort: "internal" ones involving inferential relations among thoughts and "external" ones involving certain direct causal relations to the world. Take one of those relations. Why suppose that, simply in virtue of her thought having that relation, reflection must lead her to believe that it does? Even if reflection

does, why suppose that, simply in virtue of that relation partly constituting the content of her thought, reflection must lead her to believe that it does? Most important of all, even if reflection did lead to these beliefs, why suppose that, simply in virtue of her competence, this process of belief formation justifies the beliefs and thus turns them into knowledge? The supposition seems to be gratuitous. We need a plausible explanation of this allegedly nonempirical process of justification.

4. Bonjour's Rationalism

I turn finally to Bonjour's wonderfully forthright approach to the a priori. First, he has no more faith in attempted explanations in terms of analyticity than I have and gives an excellent critique of their failings (1998, ch. 2). Indeed, he is rather contemptuous of these attempts to make the a priori palatable to the modern mind. Bonjour is an unabashed old-fashioned rationalist (apart from embracing the fallibility of a priori claims). He rests a priori justification on "rational insight": "a priori justification occurs when the mind directly or intuitively sees or grasps or apprehends...a necessary fact about the nature or structure of reality" (pp. 15-16). So, our problem of explaining the a priori becomes that of explaining rational insight. Where is the justification to be found in this quasi-perceptual process of apprehending a necessary fact?

Bonjour is only too well aware that most philosophers find this rationalism extremely mysterious (p. 107). In response, he offers the beginnings of an explanation based on the unpopular thesis that a thought's content is an intrinsic property of the thought (pp. 180-6). In my view (1990, 1996, 2001), this thesis thoroughly deserves its unpopularity. Aside from that, the explanation based on it is very obscure, as commentators have pointed out (Boghossian 2001, Rey 2001). But we need not dwell on this explanation because Bonjour himself does not claim much for it. Indeed, he accepts that "we do not presently have anything close" to an adequate explanation of rational insight (2001b, p. 674). That seems to leave rationalism in trouble. Not according to Bonjour: "the supposed mystery pertaining to rationalism...has been...greatly exaggerated" (1998, p. 31); allegations that rationalism is "objectionably mysterious, perhaps even somehow occult" "are very hard to take seriously" (pp. 107-8); "the capacity for rational insight, though fundamental and irreducible, is in no way puzzling or especially in need of further explanation" (p. 16).

What is the source of this extraordinary confidence in an unexplained and apparently mysterious capacity? It comes partly, of course, from the earlier-noted view that to deny the a priori is to commit "intellectual suicide". But it comes also from "the intuitive or phenomenological appearances" of rational insight (p. 107): Bonjour thinks that these appearances, when examining examples of alleged a priori knowledge, provide a prima facie case for rationalism that is "extremely obvious and compelling" (p. 99).

So, Bonjour thinks that there just has to be rational insight even if we can't explain it. In contrast, I think, for the reasons set out in section 2, that there does not have to be, and the apparent hopelessness of explaining rational insight shows that there isn't any. I shall end with a few more remarks about that hopelessness.

First, a word on the phenomenology. Bonjour denies that there is any mystery in "our cognitive experience" (108) when we have "direct insight into the necessary character of reality" (107). He may be right. But the mystery lies in the claim that this experience is an a priori insight. Nothing in the phenomenology supports that or, indeed, any view of what justifies the insight. In particular, it does not show that the insight is not justified in a holistic empirical way. This theoretical issue is way beyond anything in the phenomenology.

Turn next to that theoretical issue. A human mind/brain forms beliefs about the external world. In virtue of what is any belief justified and hence likely to be true? We have a rough idea of where to find an empirical answer. We look at the way in which the beliefs are related to the experiences that the world causes. Justified beliefs are appropriately sensitive, via experience, to the way the world is. Many instruments - thermometers, voltmeters, etc. - are similarly sensitive to the world. Of course, the mind/brain differs from these instruments: beliefs are much more complex than the "information states" of instruments and their sensitivity to the world is mediated, in a holistic way, by many others. Still, the mind/brain is similar enough to the instruments to make empirical justification quite unmysterious, despite the sad lack of details.

The contrast with a priori justification is stark. What sort of link could there be between the mind/brain and the external world, other than via experience, that would make states of the mind/brain likely to be true about the world? What non-experiential link to reality could support insights into its necessary character? There is a high correlation between the logical facts of the world and our beliefs about those facts which can only be explained by supposing that there are connections between those beliefs and facts. If those connections are not via experience, they do indeed seem occult.

At this point, it remains a mystery what it would be for something to be known a priori. Any attempt to remove this mystery must find a path between the Scylla of describing something that is not a priori knowledge because its justification is empirical and the Charybdis of describing something that is not knowledge at all because it has no justification.³ The evidence suggests that there is no such path. Hankering after a priori knowledge is hankering after the unattainable.

The nice abduction is established: our knowledge of mathematics, logic, and the like cannot be explained a priori; an empirical explanation of it is the best.⁴

³I argue (1998), in effect, that Rey's attempt (1998) to give a reliabilist account of the a priori falls victim to Charybdis.

⁴Thanks for comments from John Bigelow, Thomas Bontly, Radu Dudau, Hartry Field, Gilbert Harman, Frank Jackson, Hilary Kornblith, David Papineau, Stathis Psillos, Elliott Sober, Kim Sterelny, and Stephen Stich.